



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,292	04/19/2001	Sung Dae Kim	K-276	9621

34610 7590 09/02/2003

FLESHNER & KIM, LLP
P.O. BOX 221200
CHANTILLY, VA 20153

EXAMINER

HARPER, HOLLY R

ART UNIT	PAPER NUMBER
----------	--------------

2879

DATE MAILED: 09/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/837,292

Applicant(s)

KIM, SUNG DAE

Examiner

Holly R. Harper

Art Unit

2879

H

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 5 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-19 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Response to Amendment

The Applicant's amendment, filed on 7/14/2003, has been entered and acknowledged by the Examiner.

The Abstract and Specification have been amended.

Claims 3 and 5 have been canceled.

Claims 7-19 have been added.

Claims 1, 2, 4, and 6 have been amended.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1-2 and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. (USPN 5,751,098) hereinafter "Ito".

In regard to claim 1, the Ito reference discloses a cathode ray tube with a shadow mask, a pair of main frames, and a pair of subframes. The main frames are supported by the subframes. The main frames are designed to develop a predetermined tension on the shadow mask (Column 1, Lines 61-63). The subframes have a protruded part toward the shadow mask and are in

Art Unit: 2879

symmetry in left and right directions with respect to the center of the subframes (Figure 4A, Element 232). It is an inherent property of the design that the frames depicted are symmetrical and have the same structure on both sides meaning there is a pair of subframes and a pair of main frames. The subframes and main frames are made as one integral part, and not two separate attached pieces. However, it is noted that the inclusion of such separate pieces for the main frames and subframes is not shown to solve any problems or yield any unexpected results that are not within the scope of Ito's shadow mask frame. Accordingly, the inclusion of such separate pieces for the main frames and subframes is considered to be an obvious matter of design choice.

The recitation "for minimizing deformation of the main frame caused by the tension on the shadow mask" has not been given patentable weight because is considered an intended used recitation. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

In regard to claim 2, the Ito reference discloses that the protruded part of each subframe is a curved form (Figure 4A).

In regard to claim 6, the Ito reference discloses that each subframe is parallel to the shadow mask except for the protruded part (Figure 4A).

In regard to claim 7, the Ito reference discloses that the protruded parts of the frame extend along and a parallel to an opening in the subframe less than a length of the opening (Figure 4A).

Art Unit: 2879

In regard to claim 8, the Examiner notes that the claim limitation of the subframes being welded to the end portions of the main frames is drawn to a process of manufacturing, which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

In regard to claim 9, the Ito reference discloses that the pair of subframes is attached to the lower surfaces of the main frames (Figure 4A).

3. Claims 1, 4, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai et al. (USPN 6,512,326) hereinafter "Arai".

In regard to claim 1, the Arai reference discloses a cathode ray tube with a shadow mask, a pair of main frames, and a pair of subframes. The main frames are supported by the subframes. The main frames are designed to develop a predetermined tension on the shadow mask (Column 1, Lines 31-32). The subframes have a protruded part toward the shadow mask and are in symmetry in left and right directions with respect to the center of the subframes (Figure 8, Element 15). The subframes and main frames are made as one integral part, and not two separate attached pieces. However, it is noted that the inclusion of such separate pieces for the main frames and subframes is not shown to solve any problems or yield any unexpected results that are not within the scope of Arai's shadow mask frame. Accordingly, the inclusion of such separate pieces for the main frames and subframes is considered to be an obvious matter of design choice.

The recitation "for minimizing deformation of the main frame caused by the tension on the shadow mask" has not been given patentable weight because is considered an intended used recitation. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

In regard to claims 4, the Arai reference discloses a pair of subframes with a plurality of protruded parts. The protruded parts have a surface parallel to the shadow mask (Figure 8). The protruded parts of the subframes are formed by bending the subframe at least two times (Figure 8, Element 15).

In regard to claim 10, the Arai reference discloses that the subframes are bent widthwise to form a first portion that extends away from the mask and a second portion that extends toward the mask at a central portion of the subframes (Figure 8).

Allowable Subject Matter

4. Claims 11-19 are allowed.

Regarding claim 11, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 11, and specifically comprising the limitation that the subframes of the shadow mask comprise a sloped portion, a horizontal portion parallel to the screen that extends from the sloped portion, and a protruded part located between the horizontal portions.

Regarding claims 12-19, claims 12-19 are allowable for the reasons given in claim 11 because of their dependency status from claim 11.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Maki et al. (USPN 5,742,116) has a frame and subframe with a plurality of protrusions.

Park (USPN 6,335,594) has a frame and subframe with a protrusion.

Kim (USPN 6,479,925 B1) has a frame and subframe with a protrusion.

Horiuchi (USPN 5,532,546) discloses a frame and subframe with a protrusion.

Watanabe et al. (USPN 6,566,798 B2) discloses a frame and subframe with a protrusion.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2879

Contact Information

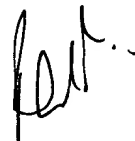
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Harper whose telephone number is (703) 305-7908. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Holly Harper
Patent Examiner
Art Unit 2879



NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800